

JUMBO MINING CO.

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DIVISION OF
OIL GAS & MINING

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MINERALS PROGRAM
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March 25, 1992
File: DOG32592

Mr. Wayne Hedberg
Division Of Oil, Gas and Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

RE: Response to Division's letter
January 14, 1992-Second Technical
Review, Permit Amendments, Mizpah
Pit & New Heap Leach Pad, Drum
Mine, M/027/007, Millard Co., UT

Dear Mr. Hedberg:

The following is the additional information requested by the
Division for our permit application.

R613-004-113 RECLAMATION SURETY-MIZPAH PIT

The waste dump for the Mizpah Pit is designed to be constructed with sideslopes of 3:1 or less, therefore, no additional acreage will be disturbed during reclamation. The area for the waste disposal is actually a small closed basin which will be filled in giving an end result of relatively flat sides. Jumbo's estimate of 10.28 acres of disturbance for the waste area is correct and no adjustment to the reclamation cost of \$5,639 is needed.

R613-004-106.6 PLAN FOR PORTECTION AND STORING EXISTING SOILS

The locations and depths of topsoil are shown in Figure 2-2. Approximately 15,600 yards of topsoil was determined to exist at the new heap area.

R613-004-111.12 TOPSOIL REDISTRIBUTION

The redistribution of topsoil will consist of the following measures:

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1. The new heap will be recontoured and regraded to to the final slope configuration of 3:1.
2. 35 ton trucks will haul the topsoil to the top of heap.
3. Front end loaders and a road grader will spread the soil evenly on the top and sides of the heap.
4. The grader will scarify the soil before and after reseeding.

After the topsoil is stockpiled, Jumbo will collect representative soil composites and have them analyzed in order to determine if soil amendments will be used. If the soil analyses indicates amendments are needed, then Jumbo will commit to use a hay mulch (up to 2,000 lb/ac) and an ammonium phosphate fertilizer (up to 100 lb/ac) during final reclamation of the heap.

A copy of the chemical analysis which was preformed by Western States is given in Table 1 (soil hole #3). This sample was collected in the same relative area as our new heap location.

THE TRENCH AREA

The correct area of disturbance for the drain trench area is 0.165 acres as stated in the letter to Rody Cox of the BLM and the 0.33 acres of disturbance stated in the letter to the Division is incorrect.

RECLAMATION OF THE NEW HEAP

After neutralization of the heap, all exposed piping of the leak detection system will be removed to our permitted waste disposal area. Any exposed ditch and detection liner will be punctured and buried during recontouring of the heap to a 3:1 slope. The pond liners will be punctured and buried in place.

Since the heap rock will be neutralized, capping of the material will not be necessary. Soil will be used solely for the purpose of a plant medium and not as a partial capping as stated in our letter dated 9/26/91.

Since topsoil will be placed on top of the new heap as a plant medium, the neutralized heap rock should not have to be

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analyzed for the purpose of evaluating suitability as a plant growth medium. If the Division requires, Jumbo will collect representative samples of the neutralized leach rock for analysis.

Jumbo has stated that topsoil will be applied on top of the new heap to a uniform depth of 6 inches minimum. The source of the topsoil which is shown in Figure 2-2 will be from the new pad area. The volume to be stockpiled will be 15,600 cubic yards. This soil will be used mainly for topsoiling the new heap and any excess will be hauled to the Mizpah area if additional soil is needed there. Current topsoil that has been stockpiled at the Drum Mine by Western States is less than 2,000 yards.

R613-004-113 SURETY

Decommissioning and neutralization of the new heap will last approximately 1-2 months depending on the amount of contaminants and the time it will take to neutralized them. Direct costs to decommission the heap will be labor to collect weekly or biweekly samples, analytical costs and any neutralizing chemicals (if needed). The following is the surety estimate to decommission and neutralize the new heap:

<u>Description</u>	<u>Amount</u>	<u>\$/Unit</u>	<u>Cost</u>
Labor to collect samples	10 Hrs	10	100
Water Analysis	6	100	600
Reagents (if needed)	500 Gal	0.40	200
	SUBTOTAL		900
+10% CONTINGENCY			90
	SUBTOTAL		990
+5 YR ESCALATION (1.84%)			90
	TOTAL		1,080

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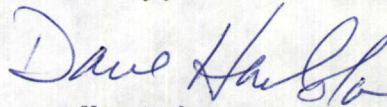
GENERAL COMMENTS

As requested by the Division, Jumbo will commit to reformat all of its permit revisions and amendments within 6 months after the approval of our New Heap and Mizpah permit amendments.

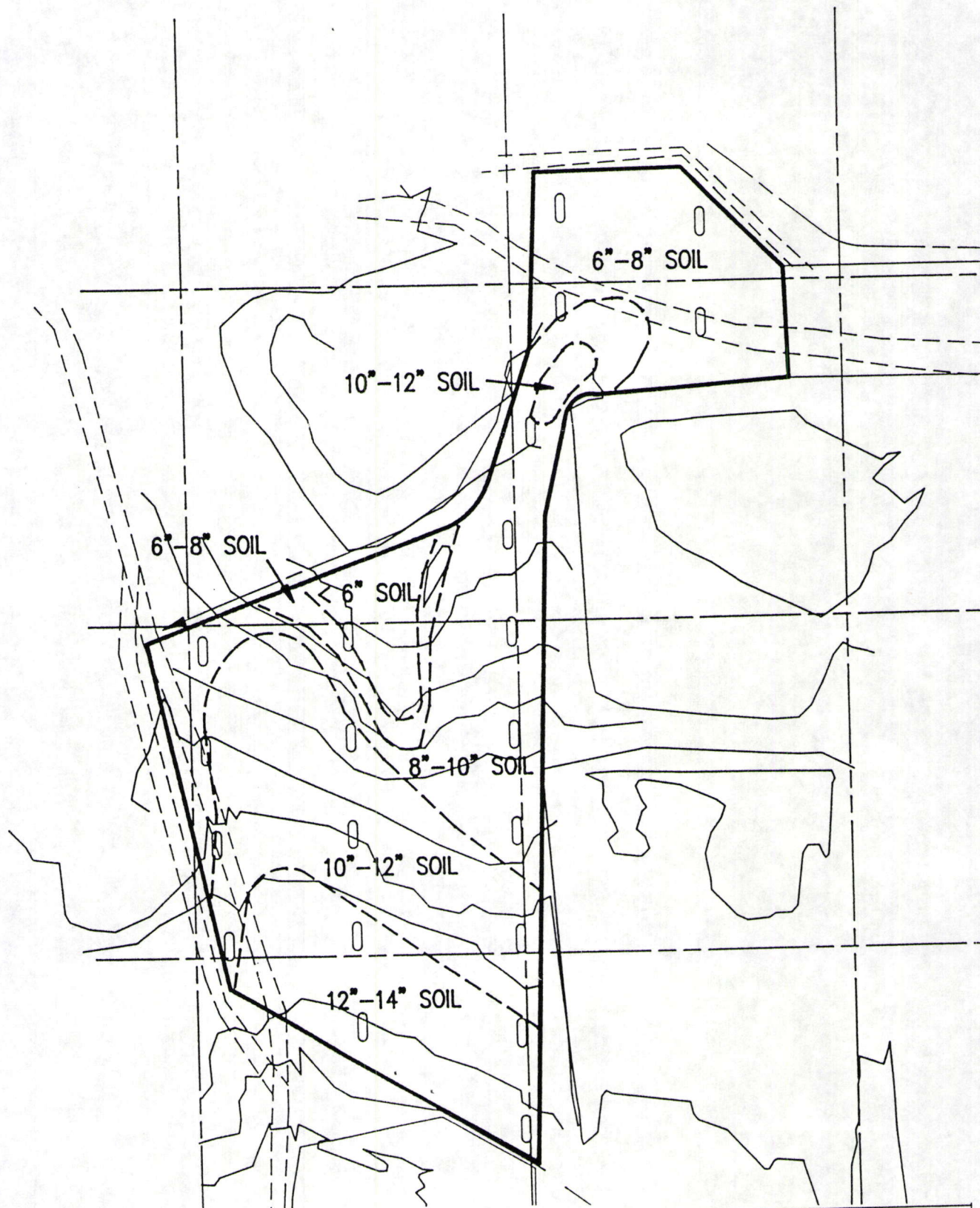
The Division of Water Quality and our new engineering consultants, Tetra Tech, are finalizing the new pad design. A copy of the final design will be sent to the Division upon completion.

Please contact me if you have any questions or concerns regarding this letter.

Sincerely,

A handwritten signature in blue ink that reads "Dave Hartshorn". The signature is written in a cursive style with a large, stylized "D" and "H".

Dave Hartshorn
Project Manager
Drum Mine




UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN FEET TOLERANCES DECIMALS ANGULAR .XX ± .05 ± 0.5 .XXX ± .010				CBC Enviro Engineering®	
DRAWN D. Riding		DATE 6/12/91		ISOPACH MAP OF SOIL THICKNESS TO BE REMOVED	
CHECKED		SIZE B		FSCM NO.	
DESIGN		SCALE 1:2,400		DWG NO. FIGURE 2-2	
				REV 1	
				SHEET 1 OF 1	

TABLE 1 SOIL CHEMICAL PROPERTIES, DRUM MINE

Parameter	Soil Hole #1 A	Soil Hole #2					Soil Hole #3		
		A1	B1	B2	C1	C2	A1	B1	C1
pH	8.0	7.7	7.8	7.7	8.5	9.1	8.0	8.4	8.7
Electrical conductivity, mmhos/cm	0.82	0.68	0.54	0.41	0.78	2.0	0.92	0.72	0.85
Calcium, meq/l	2.6	5.1	3.8	1.2	0.52	0.77	3.3	0.59	0.59
Sodium, meq/l	4.0	0.74	0.81	2.0	7.0	18.0	3.0	5.8	7.9
Magnesium, meq/l	0.82	1.0	0.74	0.49	0.21	0.23	1.1	0.25	0.11
Sodium adsorption ratio	3.1	0.42	0.54	2.2	12.0	25.0	2.0	8.9	13.0

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